

AMENDMENTS TO THE CLAIMS

1. (Withdrawn) A geogrid comprising:

a plurality of longitudinal fiber-reinforced polymer strips arranged longitudinally in parallel at regular intervals, the longitudinal fiber-reinforced polymer strip being configured so that a strip is reinforced with a fiber in a thermoplastic polymer resin; and

a plurality of lateral fiber-reinforced polymer strips arranged laterally in parallel at regular intervals, the lateral fiber-reinforced polymer strip being configured so that a strip is reinforced with a fiber in a thermoplastic polymer resin,

wherein each of the longitudinal fiber-reinforced polymer strips has at least one first contact point which is crossed with one of the lateral fiber-reinforced polymer strips on an upper surface thereof, and at least one second contact point which is crossed with another one of the lateral fiber-reinforced polymer strips on a lower surface thereof,

wherein the thermoplastic polymer resin of the longitudinal fiber-reinforced polymer strip and the thermoplastic polymer resin of the lateral fiber-reinforced polymer strip are welded and fixed at the contact points.

2. (Withdrawn) A geogrid according to claim 1,

wherein each of the longitudinal fiber-reinforced polymer strips is crossed with each of the lateral fiber-reinforced polymer strips so that the first contact point and the second contact point are positioned in turns.

3. (Withdrawn) A geogrid according to claim 1,

wherein at least one of the longitudinal fiber-reinforced polymer strips is crossed with the lateral fiber-reinforced polymer strip so that at least two second contact points are

positioned between the first contact points.

4. (Withdrawn) A geogrid according to claim 1,

wherein the thermoplastic polymer resin of the longitudinal and lateral fiber-reinforced polymer strips is one selected from the group consisting of polyolefin resin having a melt index (MI) of 1 to 35, polyethylene terephthalate having an intrinsic viscosity (IV) of 0.64 to 1.0, polyamides, polyacrylates, polyacrylonitrile, polycarbonates, polyvinylchloride, polystyrene, polybutadiene, and their mixtures.

5. (Withdrawn) A geogrid according to claim 1,

wherein the fiber of the longitudinal and lateral fiber-reinforced polymer strips is an independent one selected from the group consisting of polyester fiber, glass fiber, aramid fiber, carbon fiber, basalt fiber, stainless steel fiber, copper fiber and amorphous metal fiber, or their doubled and/or twisted fiber.

6. (Withdrawn) A geogrid according to claim 1,

wherein an entire cross section of the fiber of the longitudinal and lateral fiber-reinforced polymer strips is 20 to 80% of an entire cross section of the fiber-reinforced polymer strip.

7. (Withdrawn) A geogrid according to claim 1,

wherein the longitudinal and lateral fiber-reinforced polymer strips respectively have a rectangular cross section having a width of 2 to 30 nm and a thickness of 1 to 10 mm.

8. (Withdrawn) A geogrid according to claim 1,

wherein the longitudinal and lateral fiber-reinforced polymer strips respectively have a circular cross section having a diameter of 2 to 20 mm.

9. (Withdrawn) A geogrid according to claim 1,

wherein the plurality of longitudinal fiber-reinforced polymer strips are arranged in parallel at regular intervals of 10 to 100 mm on the basis of a center line of each longitudinal fiber-reinforced polymer strip, and

wherein the lateral fiber-reinforced polymer strips are arranged in parallel at regular intervals of 10 to 100 mm on the basis of a center line of each lateral fiber-reinforced polymer strip.

10. (Withdrawn) A geogrid according to claim 1,

wherein the plurality of longitudinal fiber-reinforced polymer strips are crossed with the lateral fiber-reinforced polymer strips at an angle of 80 to 100°.

11-19. (Canceled)

20. (Previously amended) A method for producing a geogrid with fiber-reinforced polymer strips, each of which is configured so that a strip is reinforced with a fiber in a thermoplastic polymer resin, by using a device including a strip arranging means, which has upper and lower plates for oppositely moving at an interval and first and second bending members alternatively protruded on opposed surfaces of the upper and lower plates, the method comprising:

(a) supplying a plurality of longitudinal fiber-reinforced polymer strips in a row between the upper and lower plates along the first and second bending members;

(b) bending the longitudinal fiber-reinforced polymer strip by moving the upper and lower plates to approach to each other so that a portion of the longitudinal fiber-reinforced polymer strip pressed by the first bending member becomes a valley, while a portion of the longitudinal fiber-reinforced polymer strip pressed by the second bending member becomes a ridge;

(c) inserting a lateral fiber-reinforced polymer strip through the corresponding ridge (or, valley) and valley (or, ridge) of the plurality of longitudinal fiber-reinforced polymer strips so that the lateral fiber-reinforced polymer strip is crossed with the longitudinal fiber-reinforced polymer strips; and

(d) adhering contact points at which the longitudinal and lateral fiber-reinforced polymer strips are crossed to each other,

wherein the fiber included in the longitudinal fiber-reinforced polymer strip and the fiber included in the lateral fiber-reinforced polymer strip are continuously extended in a length direction of each strip, and each strip is formed by surrounding the extended fiber with a polymer resin, and

wherein the longitudinal fiber-reinforced polymer strip and the lateral fiber-reinforced polymer strip are strips having experienced an extruding process but having not experienced a drawing process.

21. (Previously amended) The method for producing a geogrid according to claim 20, wherein support grooves are formed on the first and second bending members along the longitudinal fiber-reinforced polymer strips so that the longitudinal fiber-reinforced polymer strips are not deviated when being pressed.

22. (Previously amended) The method for producing a geogrid according to claim 20, wherein through holes are formed in the first and second bending members respectively so that the lateral fiber-reinforced polymer strip is inserted to pass through.

23. (Previously amended) The method for producing a geogrid according to claim 20, wherein, in the step (d), the contact points are adhered by means of a welding unit which includes: upper and lower jigs which oppositely moves at an interval; and a plurality of support holders protruded on opposite surfaces of the upper and lower jigs so as to be opposed with each other.

24. (Previously amended) The method for producing a geogrid according to claim 23, wherein one of the longitudinal and lateral polymer strips crossed at the contact point is pressed and supported by one of the opposite support holders, and wherein the other of the longitudinal and lateral polymer strips crossed at the contact point is pressed and vibrated by the other of the opposite support holders so that the contact point is adhered.

25. (Previously amended) The method for producing a geogrid according to claim 24, wherein, in the step (c), a first contact point at which a lower surface of the longitudinal fiber-reinforced polymer strip is crossed with an upper surface of the lateral fiber-reinforced polymer strip and a second contact point at which an upper surface of the longitudinal fiber-reinforced polymer strip is crossed with a lower surface of the lateral fiber-reinforced polymer strip are formed, and wherein the first and second contact points are adhered step by step with the use of the welding unit.